Progression of Stock Keeping in Mogami gun, Yamagata Prefecture

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Ken-ichi TANABE

I. Changing the Variety of Livestock

Mogami Gun (county) is generally regarded as a horse-raising area, and according to the statistics of 1950, it shows higher horse-breeding rates of 50~60 %, being combined with the horse-keeping one around Mt. Chokai by the range of 40 per cent between.(1)

Though in former times there were uncultivated fans and terraces in this district, yet at present it is seldom favoured by the conditions permitting horse breeding. That is to say, most of large tracts of land suitable for pastures have already been changed into fine fields, and only one favourable condition is the wild-grasses made use of as provender. Moreover, the climatic conditions, that pressed the district to keep horses in the past,(2) no longer have their power at present when various kinds of agricultural techniques have developed. Accordingly, the high horse-keeping rate can be understood as a retained phenomenon of the past. This means, without doubt, that horses may be replaced by other stock to keep from economical point of view, and this tendency can be clarified by the statistics of the last ten years.

According to the statistics of ten years before 1933, a slight increase in horse keeping farms (+706 farms) can be read throughout Yamagata Pref., but much increase in cattle-keeping farms (+3,023 farms) on the contrary. But so far as Mogami-county is concerned, the farms keeping cattle, show a slight increase (+99 farms) while horse-keeping farms increase in number to some degree (+578 farms). This fact is contrary to the general tendency above stated, and makes the author think of the increase resulted from the contraction(3) of the horse-keeping area. But a further consideration convinces him that as he can not recognize the necessity for horse keeping demanded by the large paddy fields to manage, it is more reasonably understood as one of the retarded phenomena peculiar to the Shinjo Basin —— that is, as a retrogressive

(1) Ken-ichi TANABE : Differentiation of Livestock Keeping Region in the North-eastern Japan Sci. Rep. Tohoku Univ. 7th Ser. No.3, pp.97-108

(2) ibid. p.99

(3) 〃 p.108

wave of horse keeping, which has already washed the southern part of Yamagata Pref., does not yet reach this district, it still remains as it was. The statistics of three years before 1951 confirms that there is no longer such phenomenon as above and that the tendency prevailing at present in Mogami-county nearly coincide with the general one Yamagata Pref. shows, the horse-keeping farms decreasing (−52 farms) and the cattle-keeping ones increasing (+251 farms).

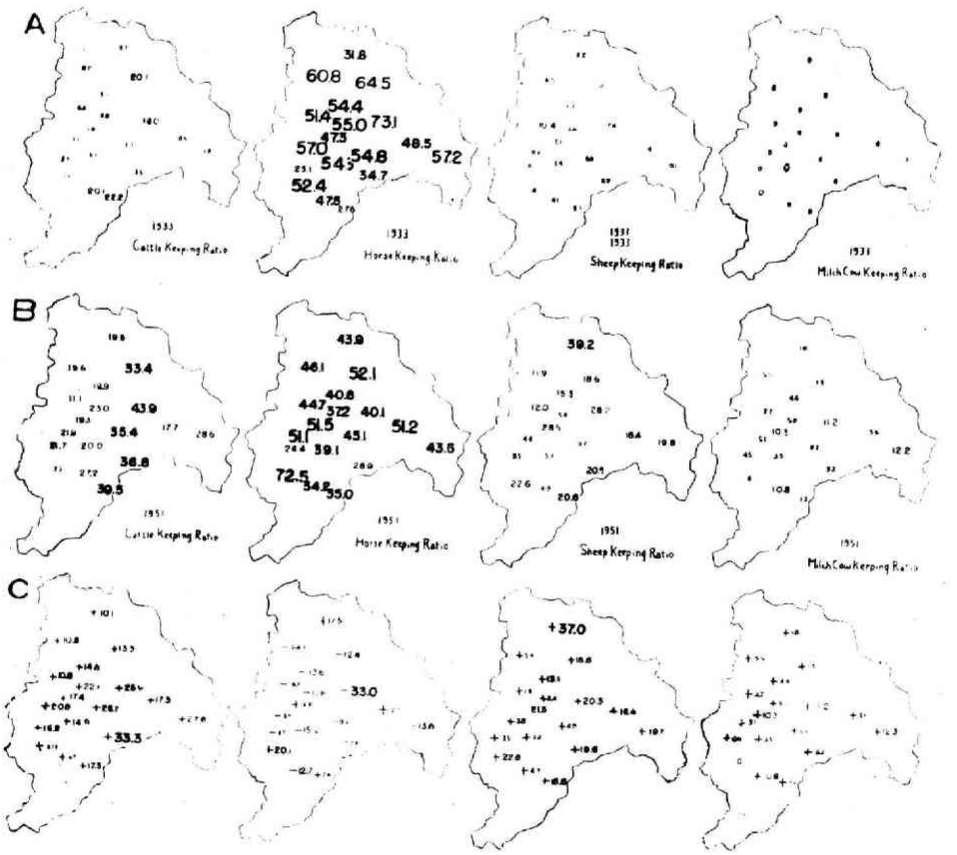

Fig. 1

The stock-keepig rate in 1933 (Fig. 1A) indicates that horse keeping is so dominant that very few sheep are kept and there is no farm keeping milch cows. Only eight city-milk deliverers and the cows kept are only 30. The features may also indicate the retarted stage of stock keeping in this district.

The cattle-keeping rate in 1951 (Fig. 1B) is quite different from that in 1933, but horse keeping still comes first. The change in the keeping

rate during the years between 1933 and 1951, as Fig. 1C shows, is that no stock decreases in number except horses. Moreover, the increase rate of the other 3 varieties of stock is much higher than that of decrease rate of horses. Generally speaking, the stock keeping is in progress throughout Mogami-county.

II. Exclusiveness of Stock

The author made a farm-to-farm-survey of the combination of the scale of the agricultural land to be managed with the variety of keeping stock to be kept in the following settlements,(5) —— Tobita (52 farms) in Shinjo City ; Hagino (102 farms) in Hagino-mura ; No and Haba (91 farms) in Funagata-mura ; Showa(77 farms) in Hagino-mura. Tobita is situated in the middle of the alluvial land of R. Sasuno and is a typical monocultural settlement, its paddy field being 1.84 chô per farm and the dry field 0.198 chô per farm. Hagino has an average area of 0.971 chô of paddy field and 0.088 chô of dry field per farm and is also a monocultural one, situated near the head of Shiono-hara Fan. No and Haba whose average area of paddy field is 0.654 chô the and that of dry field 0.168 chô, are intermontain settlements on the mid-stream of R. Oguni, and Showa (dry-field of 4.68 chô per farm) has no paddy field at all, and is a place exploited at the beginning of Showa Era. Such settlements as mentioned above, except Showa, are typical of all in the Shinjo Basin.

In Fig.2 is drawn the number of farms and with their stock according to the scale of agricultural land for every farm to manage, (the farms keeping sheep and poultry being the ones which keep them only.) As this figure shows clearly, both horses and cattle are not kept even on the farms of large scale. That is to say, they keep only one variety of laboring-cattle, and almost all farms of the scale of more than 1.5 chô have milch cows together with such laboring stock as horses or cattle. And the farms keeping sheep or poultry only are restricted to the ones whose scale of management is less than 1 chô. Accordingly sheep-keeping ones shown in Fig. 1B suggest that most of them keep other greater stock without exception.

In other words, a horse and a cattle are different from each other in efficiency and price, but the purpose for which they are used is quite the same. Urged by the limited capital, in addition to the above fact, these stock show an exceeding exclusiveness. In the case of milch cows, it is clarified that they gradually increase in number as a source of getting cash as the scale of management grows larger, while they force the farms of small or medium scale to sacrifice

(4) Ken-ichi TANABE : Some Geographic Aspects about the Milch Cow Keeping in Japan. Sci. Rep. Tohoku Univ. 7th Ser., No.2 pp.1-18

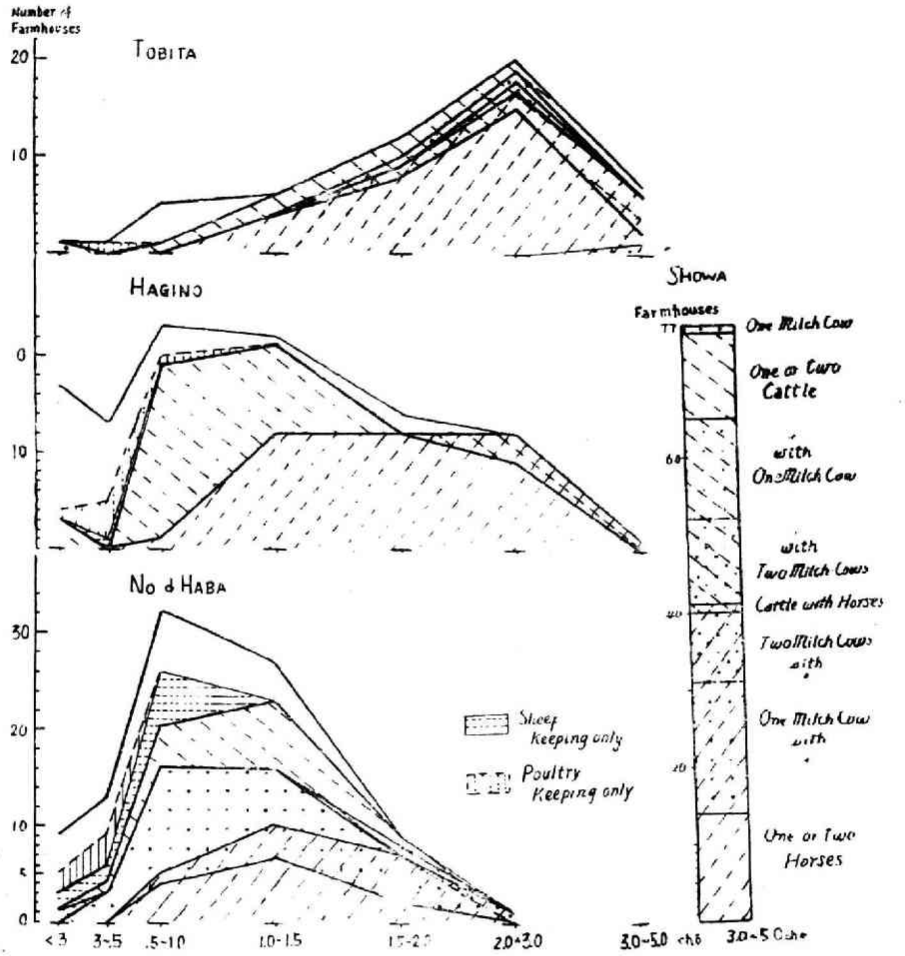

Fig. 2 Profile of stock keeping according to farm scals

the laboring cattle because of their poor capital. For this reason, milch cows also show exclusiveness. On the contrary, sheep have no character of this kind, for, being comparatively cheap, they do not compel these farms to sacrifice the stock for labor and are kept in the sense of subsidiary business.

In a monocultural area containing large farms in it, horse keeping is seen prevalent, while in an area like Hagino, where the scale is not so large as Tobita, farms whose managing scale is small or medium, have adopted cattle keeping even though it is a monocultural one. The former suggests a type of contraction area while the latter does that of the managing scale which urges horse keeping to be changed into cattle keeping. In No and Haba on the contrary, the farms

keeping milch cows are noticeable, for these settlements are hilly ones whose scales, to say nothing of each piece of paddy field, are too small for greater stock to be used for tilling. The milch cow keeping of this kind does not mean a direct replacement with horse keeping, but that of cattle keeping by the farm of small or medium scale in the process of changing from horse keeping into cattle keeping.

III Vector showing the progresson of stockkeeping

As Section II shows, a clear correlation can be supposed between the decrease in horses and the increase in cattle owing to the exclusiveness of horses and cattle. The correlation graph in another treatise[5] showed a strikingly close one between them, because the author took up the zone of paddy field or the pastoral zone, that is, the districts where horse raising is necessary or which has favorable conditions to permit horse raising. But as in this area every administrative unit has no prevalent conditions, he could not succeed in drawing such a graph as that. Yet, some relation can be supposed in the change of both varities of the domestic animals, and therefore he has drawn vectors of the change in the stock-keeping rate during the years between 1933 (pre-War) and 1951 (post-War), correcting them by the whole number of increase, because milch cows show no exclusiveness in the case of large scale farms, while it is quite outstanding in small or medium scale ones, and, viewed from the whole number, those kept by the latter scale farms, occupy a greater part.

In Fig.3, the author can take up ten cases whose progression of stock-keeping rate has been caused by the incre ase of cattle though horses decrease (village number 7,3,4,9, 1,19,12,16,11,13,) a case the higher rate of which has been due to the increase of cattle and milch cows (6), three cases whose retrogression of the rate is shown by much higher decrease in horses than the increase in cows and milch cows (village number 17,14,5), two cases which indicate that cattle increase much more greatly, though both varieties do (village number 18,10) and two cases which show much higher increase in horses (village number 15,8).

In other words, stock keeping has been advancing in MogamiGun for the last 18 years except three villages. This can be explained by the replacement of horses with cattle and a wider introduction of cattle keeping. And the replacement with milch cows or the new addition can also be seen in the villages where cattle keeping has been stressed highly. The increase in sheep keeping, more-

(5) ibid.(1) p.101

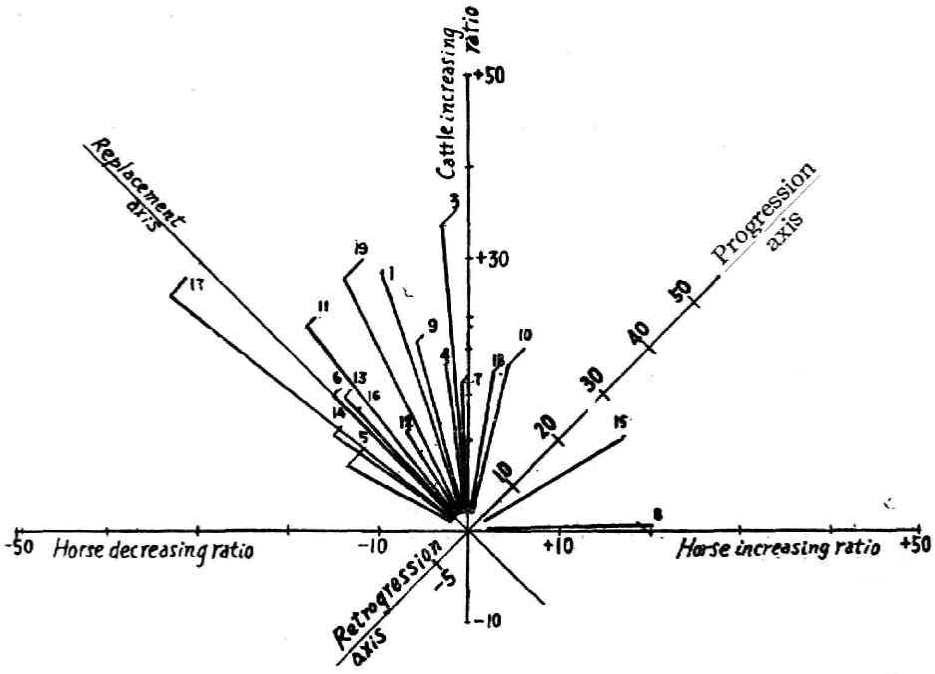

Fig. 3

over, may be understood as showing a further progression in the management of the farms keeping greater stock, accompanied with the above-mentioned pro gression of cattle keeping.